

Matam Santosh

Software Engineer

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PROFESSIONAL SUMMARIES

Software Engineer with 2+ years of experience in Autonomous Vehicles, Embedded Systems, and Automotive Software Development. Expertise in real-time systems, Python-based automation, multithreading, and OTA updates. Proficient in python , AUTOSAR, CAN, NVIDIA GPU, and AWS, ensuring ISO 26262 compliance. Experienced in HIL testing, cloud integration, and diagnostics. Passionate about optimizing vehicle software performance and safety.

WORK EXPERIENCE

Software Engineer

Sep '22 — Present

Cognizant

Bengaluru, India

- Developed Python-based real-time control software for LED and steering wheel operations, improving response time by 20%.
- Implemented multithreading and concurrency for optimized performance in autonomous vehicle systems.
- Designed NVIDIA Conversational AI (LLAMA-3.1-8b-instruct) using Python on AWS EC2 GPU-optimized instances.
- Managed OTA system development, including version control, rollback mechanisms, and secure firmware updates.
- Developed functional call implementations for model adaptation in automotive applications.
- Developed and optimized 3D simulation environments for autonomous vehicle testing using NVIDIA Omniverse, enhancing virtual prototyping and reducing real-world testing costs by 30%.
- Developed and automated Python-based HIL test scripts, reducing validation time by 30% and ensuring compliance with ISO 26262 safety standards.
- Strong knowledge of AUTOSAR architecture, CAN, HTTP, SNMP protocols, and Linux environments.

EDUCATION

B.Tech in Electronics and Communication Engineering, REVA UNIVERSITY (GPA: 9.32)

Aug '18 — Jul '22

Bengaluru, India

- Bengaluru, India

SKILLS & INTERESTS

Programming Languages : Python, C++, Embedded C

Operating system : RTOS, Windows , Ubuntu

Automotive & Embedded Systems : AUTOSAR, ISO 26262, UART, CAN bus, MQTT, LIN

Cloud & DevOps : AWS, Kubernetes, Docker

Testing & Validation : HIL, Vehicle Diagnostics (OBD-II, UDS)

Tools & Hardware : Visual studio code, JTAG, DSPACE, Git, Control desk, NXP i.MX 8QM, Raspberry Pi, EEPROM

PROJECTS

Software Defined Vehicle project for Accelerator, Cognizant

- Developed Python-based CAN communication system using SocketCAN, reducing latency by 25%.
- Implemented OTA workflows for multi-core systems, enabling seamless over-the-air software updates.
- Automated cloud-native development workflows for virtualization and software deployment.
- Ported software stacks on NXP-Toradex (i.MX 8QM) & Raspberry Pi platforms.

Fiat Ch-Test Automation EEVI, Stellantis

- Developed automated test scripts for Vehicle Functionalities (VF's), CAN/LIN database, and Model Interface Sheet.
- Automated test script conversion using Automation Tool Kit (ATK), improving efficiency by 35%.
- Executed HIL testing using Automation Desk, resolving critical test failures.
- Generated HTML reports and Excel-based test reports for automated test validations.

CERTIFICATIONS

[Google Cloud Certified Associate Cloud Engineer](#), Google cloud

Jan '23